United States District Court,
N.D. California.

SERCONET LTD,
Plaintiff.
v.
NETGEAR INC,
Defendant.

No. C 06-4646 PJH

July 30, 2007.

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ORDER CONSTRUING CLAIMS

PHYLLIS J. HAMILTON**, United States District Judge.**

On July 11, 2007, the parties' claim construction hearing to construe the disputed terms of U.S. Patent Nos. 5,841,360 (the "'360 patent"), 6,480,510 (the "'510 patent"), 7,016,368 (the "'368 patent"), 6,970,538 (the "'538 patent"), and 7,035,280 (the "'280 patent") pursuant to Markman v. Westview Instruments, Inc., 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996), came on before this court. Plaintiff SercoNet Ltd. ("SercoNet") appeared through its counsel Douglas R. Kertscher and Steven G. Hill. Defendant NetGear, Inc. ("NetGear") appeared through its counsel Christopher Parry and Jennifer Ochs. Having read the parties' papers and carefully considered their arguments and the relevant legal authority, the court hereby rules as follows.

BACKGROUND

The patents at issue involve networking technologies and specifically relate to local area data communication networks. The '360 patent discloses an intelligent network capable of distributed sensing, control and communication. The '510, '368, and '280 patents comprise a family of patents (the "'510 family") relating to local area networks ("LANs"). The '538 patent discloses a network for using a telephone line within a residence or another building. SercoNet has sued NetGear for infringement of its patents.

A. Background Technology

Data can be transferred over metro area networks (e.g., within the bay area), wide area networks (e.g.,

across the country), and local area networks (e.g., locally). The inventions at issue involve local area networks only. Generally, data is transferred in packets of information across these networks, encoded in binary signals. In the 1980's, bus network topology was used in these networks, in which all computers would work off of one cable, such that when computer A sent a signal to computer C, all computers would receive the signal, although only computer C would process it. One problem with this technology was that the packets of data would sometimes collide with one another, making the data impossible to receive. This bus technology is still used today, but in more advanced forms.

Star network topology was also popular in the 1980's. In this topology, all computers connect to a central hub, through which all messages travel. Again, as with bus topology, if computer A were to send a signal to computer C, all computers would receive the signal, but only computer C would process it. This technology had the same collision problem as the original bus technology. In the mid 1990's, this technology evolved to include a switch at the hub, which would essentially direct the signal to go to only the computer that was intended to receive it. Collisions, however, were still possible on this type of network. The switch subsequently evolved to have a feature in which it could store the data, and then forward it, which was more efficient and limited collisions.

In general, some of the problems with the various technologies from the 1980's were that only one computer, modem, or other such device could transmit data at a time, and that split signals were weak. The 1990's saw a shift to network technologies in which every wiring segment connected two and only two nodes. During that time, technologies also evolved to transmit data over powerlines, allowing power and data to use the same wire.

B. The Patents

Three of the patents at issue here share a common specification, comprising the '510 family. These patents disclose building a local area network using serial intelligent cells ("SICs") and a connection topology for local area networks using electrically conducting media. Each SIC can be connected to one or more computers, phones, and other such devices to facilitate interconnectivity among those devices. The '510 patent family discloses an invention that allows a single power source to power multiple devices in a wired, local area network, in which the devices are connected by wiring carrying both data and power. This technology uses couplers so that at each such node or device, the power and data are separated out to feed the modem or other such device. Power and data are then combined again before traveling to the next node.

The '368 patent is an invention for a type of power line communication. Devices are able to communicate over a power line by using a filter which protects the data and blocks the power supply at each device. The invention is that instead of filtering the powerline in the actual device, like a modem, the filter is part of the outlet and is part of the infrastructure of the building.

The '538 patent combines two different networks, phone and data lines. The smart outlet has inputs for both phone and data, and then they travel over a shared single type of wiring from point to point.

The parties now seek construction of ten disputed terms and/or phrases, which are contained in various claims in the five patents.

DISCUSSION

A. Legal Standard

In construing claims, the court must begin with an examination of the claim language itself. The terms used in the claims are generally given their "ordinary and customary meaning." *See* Phillips v. AWH Corp., 415 F.3d 1303, 1312-13 (Fed.Cir.2005); *see also* Renishaw PLC v. Marposs Societa' per Azioni, 158 F.3d 1243, 1248 (Fed.Cir.1998) ("The claims define the scope of the right to exclude; the claim construction inquiry, therefore, begins and ends in all cases with the actual words of the claim."). This ordinary and customary meaning "is the meaning that the terms would have to a person of ordinary skill in the art in question at the time of the invention ...". *Phillips,* 415 F.3d at 131. A patentee is presumed to have intended the ordinary meaning of a claim term in the absence of an express intent to the contrary. York Products, Inc. v. Central Tractor Farm & Family Ctr., 99 F.3d 1568, 1572 (Fed.Cir.1996).

Generally speaking, the words in a claim are to be interpreted "in light of the intrinsic evidence of record, including the written description, the drawings, and the prosecution history, if in evidence." Teleflex, Inc. v. Ficosa North Am. Corp., 299 F.3d 1313, 1324-25 (Fed.Cir.2002) (citations omitted); *see also* Medrad, Inc. v. MRI Devices Corp., 401 F.3d 1313, 1319 (Fed.Cir.2005) (court looks at "the ordinary meaning in the context of the written description and the prosecution history"). "Such intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language." Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996).

With regard to the intrinsic evidence, the court's examination begins, first, with the claim language. *See id.* Specifically, "the context in which a term is used in the asserted claim can be highly instructive." Phillips, 415 F.3d at 1314. As part of that context, the court may also consider the other patent claims, both asserted and unasserted. *Id.* For example, as claim terms are normally used consistently throughout a patent, the usage of a term in one claim may illuminate the meaning of the same term in other claims. *Id.* The court may also consider differences between claims to guide in understanding the meaning of particular claim terms.

Second, the claims "must [also] be read in view of the specification, of which they are a part." *Id.* at 1315. When the specification reveals a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess, the inventor's lexicography governs. *Id.* at 1316. Indeed, the specification is to be viewed as the "best source" for understanding a technical term, informed as needed by the prosecution history. *Id.* at 1315. As the Federal Circuit stated in *Phillips,* the specification is "the single best guide to the meaning of a disputed term," and "acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication." 415 F.3d at 1321.

Limitations from the specification, such as from the preferred embodiment, cannot be read into the claims absent an express intention to do so. Teleflex, 299 F.3d at 1326 ("The claims must be read in view of the specification, but limitations from the specification are not to be read into the claims.") (citations omitted); *CCS Fitness,* 288 F.3d at 1366 ("a patentee need not describe in the specification every conceivable and possible future embodiment of his invention."); Altiris v. Symantec Corp., 318 F.3d 1363, 1372 (Fed.Cir.2003) ("resort to the rest of the specification to define a claim term is only appropriate in limited circumstances").

Finally, as part of the intrinsic evidence analysis, the court "should also consider the patent's prosecution history, if it is in evidence." Phillips, 415 F.3d at 1317. The court should take into account, however, that the prosecution history "often lacks the clarity of the specification" and thus is of limited use for claim construction purposes. *Id.*

In most cases, claims can be resolved based on intrinsic evidence. *See* Vitronics, 90 F.3d at 1583. Only if an analysis of the intrinsic evidence fails to resolve any ambiguity in the claim language may the court then rely on extrinsic evidence, such as expert and inventor testimony, dictionaries, and learned treatises. *See* Vitronics, 90 F.3d at 1583 ("In those cases where the public record unambiguously describes the scope of the patented invention, reliance on any extrinsic evidence is improper"). However, the court generally views extrinsic evidence as less reliable than the patent and its prosecution history in determining how to read claim terms, even if its consideration is within the court's sound discretion. *See* Phillips, 415 F.3d at 1318-19.

B. Construction of Disputed Terms and Phrases

The parties dispute ten terms and/or phrases in the five patents.

1. "Serially connected intelligent cell[s] ("SICs")"

SercoNet contends that SICs should be construed as: "two or more intelligent cells directly connected using point-to-point medium", where "intelligent cells" refers to programmable elements for providing remote control, sensing and/or communications that when interconnected with other like elements form a communications, control and sensing network or system with distributed intelligence." NetGear agrees with SercoNet's construction of "intelligent cells." NetGear differs in its interpretation of "serially connected", and its proposed construction is: "A device, which is connected to at least one other such device, by means of a bi-directional communication channel. The devices are arranged in a serial (i.e., daisy-chained) fashion, but not a bus or star topology."

To begin its analysis, the court first turns to the claims themselves. The term "serially connected intelligent cell[s]" appears in claims 1-6 and claim 21 of the '360 patent and claim 1 of the '510 patent. Claim 1 of the '510 patent-which sets forth the general type of local area network for data communication, sensing, and control claimed by SercoNet-generally states that the network consists of a plurality of "serial intelligent cells" interconnected "exclusively by electrically-conducting media into at least one communicating pair" wherein each said media "interconnects no more than two of said serial intelligent cells" and each pair includes one conducting media and exactly two serial intelligent cells." Claim 1 of the '360 patent similarly sets forth the "network topology" claimed by SercoNet, which comprises a power source, and a "plurality of line-powered, serially connected intelligent cells coupled to the power source and to each other via respective communication channels each allowing mutually independent communication in either or both directions and comprising at least two electrical conductors." Claims 2-6 and 21 of the '360 patent also refer to line-powered serially connected intelligent cells, further defining where the controls, components, and various elements are located in the technology.

Reviewing the claims in which the phrase is used, there is no indication that the phrase is to be given a specific definition in any one claim versus another, and no indication that the phrase has been particularly defined, or referred to differently, in any specific claim. This being the case, the next question is whether any language from the claims is useful in helping to define precisely what "serially connected" is. The claims themselves do not really define this term. The claims do, however, describe how the cells are connected to one another, noting how many cells each connecting media connects, and defining that each pair of cells includes one conducting media. The language therefore defines the connections at the cell-to-cell level, indicating that the term "serial" is focused on how each cell is connected to another cell, rather than referring to a pattern of cells in a larger topology. However, because the claim language does not

define the term, the court turns to the specification for further guidance.

The '510 patent specification explicitly states that every communication between SICs is a "point-to-point communication" which term herein denotes a "communication that takes place between exactly one sender and exactly one receiver." *See* '510 patent at 4:35-39; *see also* '510 patent abstract (noting that "a LAN can be configured from a plurality of SICs interconnected so that all communications between two adjacent SICs is both point-to-point and bidirectional"). It notes that this is in contrast to a bus-based communication, in which there are many potential receivers and many potential senders. This type of connection *allows* chaining. Id. at 4:1. The specification, therefore, makes clear that the unique feature of the communication is that each conducting media connects and communicates with no more than two intelligent cells, consistent with SercoNet's proffered construction. While this is also consistent with NetGear's exclusion of bus-based topologies from the claim, importing this exclusion would be redundant, as point-to-point communications by definition cannot be bus-based.

As to whether "point-to-point" is a more accurate description of "serial" than "daisy-chained," the parties noted at the hearing that both terms essentially mean one after the other. Because the phrase "point-to-point" explicitly appears in the specification, and is a clearer term than "daisy-chain," the court finds that this term is more appropriate. Furthermore, the patent makes clear that each SIC can be connected to one or more other SICs, forming branching chains. *See* '510 patent at 4:3-5 (inner SICs may be equipped with multiple connections, noting that one SIC is equipped with three connections and more are possible); Figure 7. The term "daisy-chain" might imply one single chain, which would improperly limit the claim. The term "point-to-point" does not have the same potentially misleading connotation, as "point-to-point" communications are defined in the specification, but the term "daisy-chain" is not.

NetGear's proposed construction also excludes star topologies. Figure 7 in the '510 patent specification, however, shows SICs arranged in a modified star topology. It is true that the background section of the '510 patent distinguishes SICs from prior art that used star and bus topologies. *See* ' 510 patent at 1-2. The background emphasizes that prior art star topology generally used a multiplexer (i.e., a network "hub"), in which a connection between each unit and the hub is required. Id. at 2:20-25. *See also* '360 patent at 2:54-60 (which sets apart a topology allowing serial connection of the cells which allows for data to be passed in either direction from one cell to an adjacent cell from hitherto proposed systems employing star or bus topology). While SercoNet's patented technology does not require a network hub, each SIC in the invention can have multiple connections emanating from it-which is like a star topology. SercoNet's definition of "intelligent cell" itself excludes a topology which depends upon a central hub: it requires a "system with distributed intelligence," which directly contradicts a system with centralized intelligence such as the star topology. Importing NetGear's proffered exclusion of "star topologies" therefore would be redundant, given the limiting definition of "intelligent cells." It would also be potentially inaccurate, since the figures and description in the patent specification show that SICs may be deployed within a variety of networks, including a star (or at least a hybrid/modified star) topology. *See* Fig. 7 of '510 patent. The court cannot read these unstated limitations excluding certain topologies into claim language.

The court, therefore finds that the claim language and specification support SercoNet's construction. While NetGear argues that the patent prosecution history shows that "serial connection" means "daisy-chain", that history would not alter the court's construction. While the prosecution history states that the claimed network employs daisy chain architecture, noting that each node receives power from a preceding node and feeds it to a succeeding node, this description of the overall architecture does not focus on the type of connection between each cell, and it describes how power is fed across lines, not how each cell is connected

to another cell. *See* Parry Decl., Ex. 1 at 4. In addition, while SercoNet drew the patent examiner's attention to figures depicting bus and star topologies, noting that these examples do not show the type of network in the invention, the inventor used these examples to focus the examiner's attention on the peer-to-peer connection between cells allowing independent communication. *See* id., Ex. 1 at 7. As discussed above, defining this connection according to the claim language and specification eliminates the need to exclude bus and star topologies from the construction, as such exclusions are redundant and potentially inaccurate.

In sum, and for all the reasons set forth above, the court adopts SercoNet's proposed construction of "SICs" and construes the term "SICs" as: **"two or more intelligent cells directly connected using point-to-point medium", where "intelligent cells" refers to "programmable elements for providing remote control, sensing and/or communications that when interconnected with other like elements form a communications, control and sensing network or system with distributed intelligence."**

2. "Line-powered, serially connected intelligent cells (PSICs)"

SercoNet contends that the term PSICs should be construed to mean "SICs wherein one SIC receives power directly from power source and other SICs are fed power from network wiring and/or may feed power to other connected SICs." NetGear construes it as "an SIC capable of receiving and transmitting power on the data line."

This term is used in claims 1-6 and 21 of the '360 patent. Turning to the language of the claims, claim 1 of the '360 patent describes: "A network topology allowing distributed sensing, control and communication, comprising: a power source, a plurality of line-Powered, Serially connected Intelligent Cells (PSICs) coupled to the power source and to each other via respective communication channels each allowing mutually independent communication in either or both directions and comprising at least two electrical conductors, ...".

The claim language itself clearly states that the invention comprises a power source and multiple PSICs (which by definition are line-powered) connected to that power source and to each other. According to the plain claim language, it seems that the PSICs are powered, and that this is not an optional feature.

Turning to the specification for further clarification, Figure 2 of the '360 patent shows multiple PSICs that are all connected to one single power source. As SercoNet argues, this intrinsic evidence shows that line-powered in the context of this claim means that the PSICs are powered directly from a power source that is directly connected to a first PSIC, and that all other PSICs are powered from the preceding PSIC to which it is connected. *See also* '360 patent, Figure 4. In fact, the description of Figure 2 explicitly states that the network comprises a single power source for feeding power via a twisted wire pair to a line powered, serially connected intelligent cell, which is in turn serially connected to other PSICs. *See* '360 patent at 3:24-30, 3:56-60. Furthermore, NetGear concedes that the first PSIC in the network is not capable of receiving power on the network wiring. *See also* '360 patent at 4:47-60 (first PSIC is different from other PSICs in that it receives power from the power source, but does not receive data from it). This intrinsic evidence, therefore, supports SercoNet's construction describing one SIC that is directly powered from a power source and other SICs that are fed power from network wiring.

In discussing the PSICs' role in feeding power, the specification notes that the invention provides "an intelligent, distributed network wherein a plurality of intelligent cells are serially connected via bi-directional communication channels permitting data (and optionally power) to be fed serially along the

network from one PSIC to the other, in either direction. *See* '360 patent at 8:40-45. The specification therefore makes clear that the PSICs need not feed power, as the feeding of power is optional. There is nothing in the specification that requires it to do so.

Additionally, the specification also describes the last PSIC in any given string of PSICs as being somewhat different from other PSICs, in that the endpoint PSICs do not both receive and feed power and data, although the endpoint PSICs may be provided with an interface to connect to another PSIC. *See* '360 patent at 4:47-56. In other words, those PSICs may feed power to other connected SICs if given the capability. SercoNet uses "and/or" in its proposed construction to recognize that the starting and final PSICs do not *both* feed power to *and* receive power from any other device. As SercoNet conceded at the hearing, this "and/or" construction is somewhat confusing. However, NetGear's construction that each PSIC is capable of transmitting power does not accurately reflect that the last PSIC in the network would only become capable of feeding power to another PSIC if it is modified with an interface.

Finally, while Netgear's construction requires that power be transmitted on the "data line", it defines such wiring as "network wiring" in its briefing. *See* NetGear Opp. at 14:4-5. SercoNet also uses the term "network wiring" to describe the wires, so the court adopts this undisputed aspect of the proposed construction.

In sum, and for all the reasons set forth above, the court adopts SercoNet's proposed construction of "PSICs" with slight modifications and construes the term "PSICs" as: **"SICs wherein one SIC receives power directly from the power source and other SICs are fed power from network wiring and may feed power to other connected SICs if capable."**

3. "Independent communication"

SercoNet contends that "independent communication" should be construed as "communication among a pair of devices that does not effect nor preclude the communication of any other communicating pair of devices." NetGear contends the term should be construed as "capable of communicating with adjacent cells by means of different types of frames and protocols." An example of such communication, according to NetGear, is "if cell B is connected to cells A and C, cell B uses one type of frame and protocol to communicate with cell A, and a different type of frame and protocol to communicate with cell C." The parties' proposed constructions make clear that the real dispute is the meaning of the term "independent."

This term is used in claims 1-6 and 21 of the '360 patent, claim 1 of the ' 510 patent, and claims 18 and 36 of the '280 patent. Starting with the claim language, claim 1 of the '360 patent refers to communication channels that allow "mutually independent communication in either or both directions and comprising at least two electrical conductors, ..." Claim 1 of the '510 patent describes communicating pairs, "each of said at least one communicating pair is operative to engage in said communication bidirectionally and independently of the communication of any other of said at least one communicating pair." Claim 36 of the '280 patent describes communication links in which the first communication link "carried data independent of said second communication link."

Reading the plain language of these claims, independent communication denotes a communication between each pair, in which such a communication operates irrespective of communications between any other communicating pair. However, the claim does not really define "independent." The language of the claims does not focus on how an invention may achieve independent communication. Rather, the claim languages

focuses on what it means to communicate independently. The claim language, therefore, supports SercoNet's construction of "independent communication", as NetGear's construction focuses on the means by which such communication is achieved.

Turning to the claim specification, the '280 patent notes that communication between SICs of a communicating pair is independent of the communication between SICs of any other communicating pair, in that these communications neither preclude nor affect one another in any way. *See* '280 patent at 4:40-45. The specification, therefore, explicitly defines the term according to SercoNet's construction. It also states that the SIC network can support two "independent communication routes simultaneously, provided different segments are used ... for example, SIC 800 can communicate with SIC 802 while SIC 804 simultaneously communicates different data with SIC 806." The '360 patent also references communications between "adjacent PSICs in either or both directions independent of a simultaneous communication between another pair of adjacent PSICs." *See* '360 patent abstract; *see also* '360 patent at 6:28-30.

NetGear relies on part of the '510 specification which discusses differences between the circular topology defined in the invention and prior art ring topology. One difference is in framing. The ring uses the same frame structure throughout all communication links, and all cells must recognize the same framing. In the present invention, however, "each communication link (between any two connected SICs) is totally independent from all other network communication. Hence, a first SIC can communicate with a second SIC using one type of frame structure and protocol, while the same first SIC can communicate with a third SIC using a different type of frame structure and protocol." *See* ' 510 patent at 9:10-17. This discussion, however, occurs in the context of discussing multiple differences between one type of topology of the invention-the circular topology-from the Token Ring topology of the prior art. It is not clear that using different types of frame structure and protocol is the only way of implementing independent communication. And again, this part of the specification is giving an example of how such communication can be implemented, rather than defining what it is. Finally, there is no real clarification in the specification as to what "frame structures" and "protocols" are, and construing the term with such words would not lend any clarification to the construction.

NetGear also relies on the patent prosecution history in support of its construction, noting that the inventor maintained that each communication link in the invention can be totally independent from any other and that "cell B can communicate with connected cell A using one type of frame and protocol, while its communication with cell C may use a different type of frame and protocol." *See* Parry Decl. Ex. 1 at 5. This construction has problems for the reasons discussed above. In addition, patent prosecution history is less important and less reliable in claim construction than the specification. *See* Phillips, 415 F.3d at 1317.

In sum, and for all the reasons set forth above, the court adopts SercoNet's proposed construction of "independent communication" and construes the term "independent communication" as: **"communication among a pair of devices that does not effect nor preclude the communication of any other communicating pair of devices."**

4. "Local area network" ("LAN")

This term appears in claim 1 of the '510 patent, claims 1, 12, 14, 72, 84, 86 of the '368 patent, and claim 18 of the '280 patent. SercoNet contends that LAN means "a short distance communications network (typically within a building or campus) used to link computers and peripheral devices (such as printers, CD-ROMS, modems) under some form of standard control." NetGear's proposed construction for the term is "a

configuration of devices, arranged in a serial (i.e., daisy-chained) fashion, but not a bus or star topology." SercoNet also maintains that the term need not be construed where it appears in the claim preamble.

Turning to the language of the claims, claim 1 of the '368 patent reads: "An electrical outlet for configuring a local area network in a building, the network including a powerline wiring carrying frequency multiplexed power and data signals...." Claim 72 describes: "A service outlet for configuring a local area network in a building, the network including a service wiring carrying frequency multiplexed service and data signals .... " The remaining claims of the '368 patent (claims 12, 14, 84, and 86) are dependent on claim 72. Claim 18 of the '280 patent describes: "A device for configuring a local area network in a building for the transport of power and data signals across a wiring...." Claim 1 of the '510 patent sets forth: "A local area network for data communication, sensing, and control comprising a plurality of serial intelligent cells interconnected exclusively by electrically-conducing media into at least one communicating pair...."

The term LAN is used generally in these claims, as the subsequent language in the claim terms supply more detail as to what the LAN comprises. For example, in claim 1 of the '510 patent, what is claimed is a "LAN for data communication, sensing and control comprising a plurality of serial intelligent cells ..." If the court were to read the term "serial cells" or "serial" into the meaning of the LAN term itself, as urged by NetGear, it would create a redundancy in the claim language. In addition, the claim term contains the word "local." As the parties have explained to the court, a local area network is different from wide area networks and metropolitan area networks, in that it is on a much more localized scale. NetGear's construction does not include any limiting language addressing what it means for a network to be a "local area" network, whereas SercoNet's proposed construction explains what a local or "short distance" network means.

Turning to the specification, NetGear's proposed construction is at odds with intrinsic evidence, as the figures of the '510 patent and '360 patent show that not all devices configured within a LAN are SICs. The figures show that both SICs and personal computers are inter-networked. For example, the ' 510 patent notes that an example of a LAN of devices is illustrated in Figure 7, which in turn shows both SICs and personal computers connected to the network. *See also* '510 patent abstract (describing SIC network, noting that each SIC can be connected to data terminals, computers, telephones, sensors, etc.). It appears that NetGear is trying to use the term LAN to define the term "serial" as a daisy-chained network that does not include bus or star topologies. However, this construction fails for the same reasons set forth in the court's analysis of the first disputed claim term. And, while the '510 patent specification does emphasize the SIC topology as a fundamental feature of the invention and describes the invention as a network of SICs, this does not mean that the inventor meant to redefine the term LAN, especially as the figures and descriptions in the specification show that computers and modems may be part of the network as well.

SercoNet's proposed instruction comes from Newton's telecommunications dictionary, and is the ordinary plain meaning as one skilled in the art of electrical engineering would interpret it. This meaning controls here, as there is no contrary definition or disavowal in the specification.

As for whether the term LAN need be construed in the claim preambles, in considering whether a preamble limits a claim, "the preamble is analyzed to ascertain whether it states a necessary and defining aspect of the invention, or is simply an introduction to the general field of the claim." The inquiry is whether the preamble is "necessary to give life, meaning and vitality to the claims or counts." *On* Demand Mach. Corp. v. Ingram Indus., 442 F.3d 1331, 1343 (Fed.Cir.2006) (quotations omitted). "If, however, the body of the claim fully and intrinsically sets forth the complete invention, including all of its limitations, and the preamble offers no distinct definition of any of the claimed invention's limitations, but rather merely states,

for example, the purpose or intended use of the invention, then the preamble is of no significance to claim construction because it cannot be said to constitute or explain a claim limitation." Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1305 (Fed.Cir.1999).

SercoNet claims that the term LAN need not be construed in claims 1, 12, 13, 72, 84, and 86 of the '368 patent and claim 18 of the '280 patent. In claim 1 of the '368 patent, the preamble describes an electrical outlet for configuring a local area network, and the claim then notes what comprises that outlet. The claim preamble, therefore, sets forth the framework of the invention and is "intimately meshed with the ensuing language in the claim." Pitney Bowes, 182 F.3d at 1306. Claims 12 and 13 merely build upon claim 1. The preamble language of claims 72 of the '268 patent and claim 18 of the ' 280 patent are very similar, both setting forth the frameworks of devices for configuring local area networks. All of these terms, therefore, must be construed.

In sum, and for all the reasons set forth above, the court adopts SercoNet's proposed construction of "LAN" and construes the term "LAN" as: **"a short distance communications network (typically within a building or campus) used to link computers and peripheral devices (such as printers, CD-ROMS, modems) under some form of standard control." This term shall be so construed in the both the claim preambles and the body of the claims.**

5. "Electrical outlet"

This term appears in claims 1 and 30-31 of the '368 patent. SercoNet maintains that the definition of electrical outlet does not need construction in claim 1, as it is merely in the preamble of the patent, and the six elements of the body of the claim completely define the invention at issue. For claims 30 and 31, SercoNet proposes the customary meaning of an electrical outlet, which is "a point on the wiring system at which current is taken to supply utilization equipment" from the authoritative dictionary of the standard setting organization, the Institute of Electrical and Electronics Engineers ("IEEE"). Netgear's proposed construction for the term in all claims is "a powerline termination from which electric power can be obtained by inserting a plug." Netgear's definition derives from the McGraw-Hill Electronics Dictionary.

Starting with the claim language, claim 1 of the '368 patent describes: "An electrical outlet for configuring a local area network in a building, the network including a powerline wiring carrying frequency multiplexed power and data signals, the electrical outlet comprising ..." Claims 30 and 31 of that patent refer to "the device according to claim 18 [which describes a device for configuring a LAN in a building], wherein said device is pluggable into an electrical outlet" or where the device is "attachable to an electrical outlet", respectively. Claim 31 explicitly states that a device may be attachable to an electrical outlet, as opposed to being "pluggable" into such an outlet as described in claim 31. The claim language, therefore indicates that power need not be obtained from an electrical outlet by "inserting a plug."

Turning to the specification, Figure 5 of the '368 patent shows a connection from an SIC to the electrical power main. The specification also notes that part or all of an SIC can be housed within an electrical outlet so that the electrical outlet allows connection to the local area network as well as to electrical power. '368 patent at 8:24-26. Power can be fed to an "optional" electrical appliance, and the figure shows that the appliance contains a plug. The specification also states that typical house mains have a connection to a single feeder with multiple distribution points and outlets. Id. at 9:61-63. The intrinsic evidence, therefore, seems to show that while electric power may be obtained by inserting a plug into an outlet, this is not required, and an outlet more generally described as a point of connection for electrical power.

Both parties' definitions come from technical dictionaries. Neither is really directly supported by intrinsic evidence. However, because there is nothing directly limiting an outlet to something by which a plug must be inserted to obtain power, and because the claim language clearly states that a device may either be attachable to or pluggable into an electrical outlet, NetGear's definition imports an extraneous limitation that is not supported by the claim language or specification, and SercoNet's proposed construction does not suffer from the same problem. While NetGear's definition might make more sense to a layperson, SercoNet's definition comes from an engineering standards setting organization, and therefore constitutes a plain meaning to one skilled in that art.

As for whether the term in the preamble of claim 1 of the '368 patent need be construed, the term outlet appears in the body of the claim and refers back to the term "electrical outlet" in the preamble. Therefore, the term gives life and meaning to the claim, and should be construed. *See On* Demand Mach. Corp., 442 F.3d at 1343.

In sum, and for all the reasons set forth above, the court adopts SercoNet's proposed construction of "electrical outlet" and construes the term "electrical outlet" as: **"a point on the wiring system at which current is taken to supply utilization equipment." This term shall be so construed in the both the claim preamble and the body of the claims.**

6. "First and second data couplers, each coupled to a respective one of said first and second ports, and each having a data signal port operative to pass only a data signal"

This phrase appears in claim 18 of the '280 patent. SercoNet argues that this term should be construed as: "Two data couplers, each coupled to a different port, where each such port transmits a data signal, but not a power signal." NetGear's proposed construction is: "The device has two data couplers, each coupled to a different port (the first and second port). Each data coupler is capable of separating the data from the power received at that port, and passing along the data signal."

Turning to the claim language, the claim describes: "A device for configuring a local area network in a building for the transport of power and data signals across a wiring, wherein the wiring includes at least first and second wiring segments, the device comprising: ...

[1] first and second ports each connected to a respective one of said first and second wiring segments;

[2] first and second data couplers each coupled to a respective one of said first and second ports, and each having a data signal port operative to pass only a data signal;

[3] first and second modems each coupled to said data signal port of a respective one of said first and second data couplers, for full duplex data signal communication with a respective one of said first and second wiring segments; ...

[5] first and second power couplers each coupled to a respective one of said first and second ports, and each having a respective one of first and second power signal ports, each signal port being operative to pass only the first power signal;

[6] a power supply coupled to the first power signal port and to at least one of said modems to be powered

by the power signal and for powering said modem."

The term at issue notes that the port is "operative to pass only a data signal." The language therefore focuses on the port's ability to pass and transmit a data signal. This term does not state anything about separating data, nor does it discuss separating data from power. In fact, other portions of the claim separately deal with the passing of power signals. NetGear's definition suggests that the port must separate data from power, and may not simply just allow data to pass without performing this separation. NetGear is apparently importing an extraneous limitation that is not suggested by the language of the claim.

NetGear, however, argues that because claim 18 as a whole describes a device that transports both power and data across the same wires, and because the data coupler passes only a data signal, this necessarily means that the coupler separates data from the power signal. While this is certainly one logical reading of the invention, it is unclear from the plain claim language that separating the signal is the only mechanism by which the coupler passes the data signal, but not the power signal.

Turning to the specification for further clarification, NetGear notes that the couplers in this claim are the power/data splitter/combiners in the specification, which decouple the data signal from the power. *See* '280 patent at 5:63-66 & Figure 5. However, the specification specifically states that "in some cases ... the power/data splitter/combiner is not required, and the power lines are directly connected to the SIC power-supply while the data connects directly to the modems." Id. at 6:16-23. The specification, therefore, seems to indicate that this separating function is not a necessary part of the invention in all circumstances. And, while this portion of the specification indicates that the couplers that are at issue here might not be a part of the invention in these alternative embodiments because they are not "required," there is nothing in the specification that precludes the couplers from being part of these alternative embodiments.

As with the previous claim term, while SercoNet's definition may not be perfect, it does not import an extraneous limitation into the term, and therefore does not suffer from the same difficulties as does NetGear's proposed construction.

In sum, and for all the reasons set forth above, the court adopts SercoNet's proposed construction of "First and second data couplers, each coupled to a respective one of said first and second ports, and each having a data signal port operative to pass only a data signal" and construes the term as: **"Two data couplers, each coupled to a different port, where each such port transmits a data signal, but not a power signal."**

7. "A power supply coupled to the first power signal port and to at least one of said modems to be powered by the power signal and for powering said modem"

This phrase also appears in claim 18 of the '280 patent, the terms of which are described above. SercoNet maintains that this term means: "The device receives a power signal and allows the transfer of the power signal with the modem and the power coupler." NetGear's proposed construction is: "The device receives power and data on the first wiring segment, and filters the power. The filtered power is used to power a modem."

Starting with the claim language, as with the previous claim, the plain language of the claim does not on its face describe a filtering of power from the data, as urged by NetGear. SercoNet's proposed construction of this term as a device that receives a power signal and allows the transfer of that signal with the modem and the power coupler. The plain language of the claim supports this reading, as the claim language simply

describes a power supply powered by a power signal connected to a power signal port that powers a modem. In addition, other parts of claim 18 separately deal with the transfer of data, so this portion of the claim should not be construed to deal with data transfer.

Turning to the specification, NetGear again relies on the power/data splitter/combiner description in the specification which describes such devices as separating the power and data signals. *See* '280 patent at 5:63-66, 6:31-34. The specification does not, however, state that "filtering" is required. NetGear, therefore, imports an extraneous term that is not supported by the claim or specification. FN1 While SercoNet's construction may not be perfect, it does not suffer from the same problems as NetGear's construction, as it does not import an unsupported extraneous term. And, as SercoNet points out, requiring that the device receive both power and data is incorrect, because the first SIC-the one connected to the power supply-does not necessarily receive both power and data.

FN1. In addition, as discussed above, certain alternative embodiments do not use a power/data splitter/combiner.

In sum, and for all the reasons set forth above, the court adopts SercoNet's proposed construction of "A power supply coupled to the first power signal port and to at least one of said modems to be powered by the power signal and for powering said modem" and construes the term as: **"The device receives a power signal and allows the transfer of the power signal with the modem and the power coupler."**

8. "First, second and third nodes"

This term appears in Claim 36 of the '280 patent, which describes: "A network for carrying data and power signals, said network comprising: first, second and third nodes, each of said nodes containing at least one power consuming circuit ..." SercoNet argues that this term means "three distinct communication entities designated 1st, 2nd and 3rd" whereas NetGear construes it as "First, second and third SICs." However, at the hearing, the parties agreed that the plain meaning of the term node means any addressable entity-in other words, an entity that has its own identity to the network. Printers and computers are examples of nodes. NetGear, however, argues that the specification limits the term "node" to SICs rather than its plain meaning.

Starting with the claim language, the claim itself does not define the term node. The inventor, however, specifically used the term SIC many times in other claims in the related patents, but did not do so here. The claim language, therefore, indicates that "node" is not synonymous with SIC.

Turning to the specification, the specification also refers to the term SIC many times, yet the claim uses the broader term "node". Furthermore, the abstract notes that the invention is a serial intelligent cell and a connection topology for local area networks, noting that the network can be configured by a plurality of SICs, which can be connected to one or more data terminals, computers, telephones, sensors, etc. In other words, the specification shows that both SICs and other addressable entities are connected to the network. Figures 7 and 8 also show both computers and SICs connected together in a network. While the computers are referred to as "data terminal equipment units" in the figures, and while the claim language separately refers to data terminal equipment units, there is nothing indicating that "nodes" does not encompass both data terminal equipment units and SICs. The specification, therefore, does not indicate that all entities in the network are SICs.

In addition, the patent prosecution history also supports a conclusion that the term "nodes" was used according to its normal usage. The information disclosure statement filed with the USPTO disclosed the '517 patent, which in turn referred to nodes as LAN devices such as computers, printers and modems. *See* '517 patent at 3:34-36.

Finally, NetGear's own proposed construction of other terms repeatedly uses the term "device," which itself is a broader term that it seems to use interchangeably with nodes, peripherals, and entities. For example, defendant proposes that an SIC itself is a device arranged in a certain way with certain types of connections, and that a LAN is a configuration of "devices" arranged in a serial fashion. Yet in the patent itself, the term "devices" refers more broadly to data terminals, computers, telephones, sensors, etc. *See* '510 patent at Abstract.

In sum, and for all the reasons set forth above, the court adopts SercoNet's proposed construction of "First, second and third nodes" with the modifications discussed at the hearing and construes the term as: **"3 addressable or identifiable entities designated 1st, 2nd, and 3rd."**

9. "First and second wiring segments in a building"

This term appears in Claim 25 of the '538 patent, which describes: "A network for transporting digital data and telephone signals, said network comprising: ... first and second wiring segments in a building, each comprising at least two conductors for carrying digital data signals...." SercoNet construes this term as "two distinct wiring segments, each consists of 2 or more distinct wires exclusively located in a structure." NetGear's construction is: "The building's conventional telephone wiring which has been modified so as to be split into fully separate segments."

There seem to be two main areas of dispute regarding this term. NetGear argues that the wiring must be telephone wiring and that such wiring is modified and split, whereas SercoNet argues that the wiring is not limited to telephone wiring, and that modification or splitting of that wiring is not required. SercoNet agrees that in its proposed construction, a structure is a building. Starting with the claim language, claim 29 is for a network according to claim 25, wherein at least one of the wiring segments is telephone wiring. Based on this claim language, it appears that wiring segments need not be telephone wiring, unless the wiring is explicitly described as telephone wiring, given the fact that dependent claim 29 limits one wiring segment to telephone wiring. In addition, claim 25 notes that the claimed network transports both digital data and telephone signals. The claim language, therefore, supports SercoNet's broader reading that does not limit the wiring to *telephone* wiring. Nor does the claim language refer to modification of the wiring.

Turning to the specification to further understand this term, the summary of the invention does not refer to modification of wiring. *See* '538 patent at 4:55-5:15. Nor does the rest of the specification refer to *required* modification of the wiring, and NetGear does not point to where the specification refers to this. In fact, NetGear seems to abandon this argument in its opposition.

As to whether the specification limits "wiring" to telephone wiring, NetGear's argument that the specification supports construing wiring as "telephone" wiring is persuasive, as the wiring is described as such throughout the specification and abstract. *See, e.g.,* '538 patent at 1:5-8, 3:40-44 (describing network using telephone wiring, telephone lines, and telephone line wiring system). In fact, the invention is summarized as one that "provides a method and apparatus for using the telephone line wiring system within residence or other building for both analog telephony service and a local area data network." However, the

abstract also refers to wiring in a more general sense-as "electrically-conducting media." *See also* '538 patent at 11:34-38 (referring to wires and conductors generally). In addition, the specification also refers to ethernet wires. *See* id. at 9:30-38. Therefore, although the specification makes clear that the invention predominantly uses telephone wiring, it is not limited to such wiring.

In sum, and for all the reasons set forth above, the court adopts SercoNet's proposed construction of "first and second wiring segments in a building" with a minor modification (keeping the term "building" rather than changing it to "structure") and construes the term as: **"two distinct wiring segments, each consists of 2 or more distinct wires exclusively located in a building."**

10. "Telephone signal"

This term appears in claim 25 of the '538 patent. SercoNet construes this term as: "An electrical signal carrying bi-directional speech information in either a digital or analog form ." NetGear defines it as: "An analog telephone signal (i.e., the signal that is used for plain old telephone service (POTS))".

Starting with the claim language, claim 25 refers to a "network for transporting digital data and telephone signals" but does not define telephone signals. However, claim 30 of the patent describes a network "wherein the telephone signals are digitized telephone signals." From the plain claim language, therefore, telephone signals are broad enough to encompass digitized telephone signals. In addition, other claims in the patent, such as claims 2 and 12, refer to the term "analog." Yet "analog" was omitted in the term "telephone signal" at issue here. Therefore, the claim language indicates that "telephone signals" are not limited to analog signals, as NetGear's construction proposes.

Turning to the specification for further clarification, the specification defines "analog telephony" as traditional analog low frequency audio voice signals referred to as "plain old telephone service" or "POTS." It then specifically contrasts the term telephony, which in general denotes any kind of telephone service, including digital service such as integrated services digital network. *See* '538 patent at 1:18-32. Furthermore, the specification explicitly refers to an embodiment that describes both analog and digital telephone networks. *See* id. at 11:58-67. The term at issue, therefore, is not limited to analog telephone signals, and SercoNet's broader construction is proper.

In sum, and for all the reasons set forth above, the court adopts SercoNet's proposed construction of "telephone signal" and construes the term as: **"An electrical signal carrying bi-directional speech information in either a digital or analog form ."**

CONCLUSION

In accordance with the foregoing, and for the reasons discussed above, the court construes the parties' disputed terms as follows:

1. "Serially connected intelligent cell[s] (SICs)" means "two or more intelligent cells directly connected using point-to-point medium", where "intelligent cells" refers to programmable elements for providing remote control, sensing and/or communications that when interconnected with other like elements form a communications, control and sensing network or system with distributed intelligence."

2. "Line-powered, serially connected intelligent cells (PSICs)" means "SICs wherein one SIC receives power directly from the power source and other SICs are fed power from network wiring and may feed

power to other connected SICs if capable."

3. "Independent communication" means "communication among a pair of devices that does not effect nor preclude the communication of any other communicating pair of devices."

4. "Local area network (LAN)" means "a short distance communications network (typically within a building or campus) used to link computers and peripheral devices (such as printers, CD-ROMS, modems) under some form of standard control."

5. "Electrical outlet" means "a point on the wiring system at which current is taken to supply utilization equipment."

6. "First and second data couplers, each coupled to a respective one of said first and second ports, and each having a data signal port operative to pass only a data signal" means "two data couplers, each coupled to a different port, where each such port transmits a data signal, but not a power signal."

7. "A power supply coupled to the first power signal port and to at least one of said modems to be powered by the power signal and for powering said modem" means "the device receives a power signal and allows the transfer of the power signal with the modem and the power coupler."

8. "First, second and third nodes" means "3 addressable or identifiable entities designated 1st, 2nd, and 3rd."

9. "First and second wiring segments in a building" means "two distinct wiring segments, each consists of 2 or more distinct wires exclusively located in a building."

10. "Telephone signal" means "an electrical signal carrying bi-directional speech information in either a digital or analog form ."

All of these terms shall be so construed where they appear in the claim preambles, as well as in the body of the claims.

SO ORDERED.

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Serconet Ltd. v. Netgear Inc.

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